REMARKS

In the Office Action mailed October 5, 2009, a concern was noted by the Examiner regarding a previously submitted Information Disclosure Statement (IDS).

Claims 1-2, 4-8, and 10 were rejected under 35 USC §102 for alleged anticipation by Kao Corp., JP 10-120524.

Claims 1-3, 7-8, and 10 were rejected under §102 for alleged anticipation by WO 99/44564.

Claims 4-6, 9 and 11-18 were rejected under 35 USC §103 for alleged obviousness based upon WO 99/44564.

Applicant appreciates the careful and thorough review of the present application. It is respectfully submitted that in view of the clarifications presented herein, claims 1-6 and 9-16 are all in condition for allowance. Claims 7-8 and 17-18 have been cancelled. New claim 19 is presented.

A. Previously Submitted IDS

A Supplemental IDS accompanies this Amendment B and remedies the concerns noted by the Examiner. Specifically, a full citation of previously submitted reference 7 and an accompanying concise statement is included in the Supplemental IDS.

This Supplemental IDS also cites two articles presented for the Examiner's review, and which are referred to herein.

Consideration of the accompanying Supplemental IDS is respectfully requested.

B. Additional IDS

Also accompanying this Amendment B is another IDS. That IDS cites two publications: JP 10-120524 and JP 2003-0002822. These publications were cited in a corresponding Japanese application. The JP '524 document was cited by the Examiner in the Office Action mailed October 5, 2009 and is addressed herein.

C. Rejections Should Be Withdrawn

Independent claims 1, 9, 10, and 11 have all been amended to recite that "a water-miscible solvent" formerly recited in those claims is now "polypropylene glycol/polyethylene glycol copolymer compound or its dimethyl ether compound."

Neither of the documents cited by the Examiner, i.e. the JP '524 document nor the WO '564 document, discloses, teaches or suggests using polypropylene glycol/polyethylene glycol copolymer derivatives. At best, these documents suggest only 1,3-butylene glycol and glycerin for compounds corresponding to a water-miscible solvent. Thus, the claims now reciting polypropylene glycol/polyethylene glycol copolymer derivatives for preparing one-phase microemulsions are all readily distinguishable from the cited documents.

Furthermore, claims 1-6 and 9 call for a one-phase microemulsion. A one-phase microemulsion phase differs from a normal two-phase emulsion. A normal two-phase emulsion having micron order particle size is often called a "microemulsion." However, a two-phase "microemulsion" is distinct from the one-phase microemulsion recited in the claims at issue. A one-phase microemulsion is thermodynamically stable, but in

contrast, a two-phase microemulsion is thermodynamically unstable. This is explained in paragraphs [0023] and [0024] in the specification of the present application.

The phase condition of the microemulsions in the cited documents is unclear, but they are believed to be in a two-phase microemulsion. This is due to the fact that a one-phase microemulsion region is very narrow compared with a two-phase microemulsion region, and thus it is difficult to obtain a one-phase microemulsion composition. Submitted herewith is an article co-authorized by the inventors entitled, "Development of Novel Multifunctional Cosmetic Raw Materials and Their Applications. II. Novel Emulsifying Method with Random Copolymer of Polyoxyethylene / Polyoxypropylene", J. Oleo Science, Vol. 55, No. 8, p. 403-411 (2006). Figures 4 and 5 from that article are set forth below for the convenience of the Examiner:

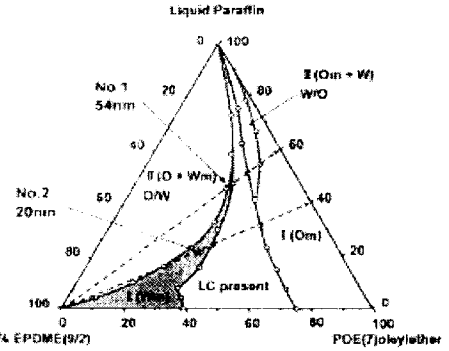

Fig. 4 Phase Diagram of 50wt% {polyoxyethylene (9 mol) / polyoxypropylene (2 mol) dimethylether {EPDME (9/2)}} / POE(7) Oleylether / Liquid Paraffin System at 25℃. Upper and lower dotted arrows indicate liquid paraffin / POE(7) oleylether as 60 : 40 and 40 : 60, respectively. Upper and lower stars indicate liquid paraffin : POE(7) oleylether : EPDME(9/2) : water (46.2 : 30.8 : 11.5 : 11.5) and (21.6 : 32.4 : 23.0 : 23.0) (1 and 2). 1 and 2 show ultrafine emulsion particle diameters for region 1 and 2, respectively. Wm, microemulsion phase (aqueous micellar solution) ; Om, reversed micellar solution ; LC, multi phase reagion with unidentified liquid crystalline phase ; I, one-phase region ; II, two-phase reagion.

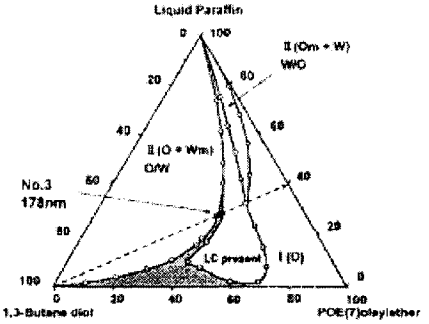

Fig. 5 Phase Diagram of 60wt% 1,3-butane Diol / POE (7)oleylether / Liquid Paraffin System at 25℃. Dotted arrow indicates liquid paraffin / POE(7) oleylether as 40 : 60. Star indicates liquid paraffin : POE(7) oleylether : 1,3-butane diol : water (28.4 : 42.6 : 17.4 : 11.6) (No.3). 3 shows ultrafine emulsion particle diameter region 3. Abbreviation used : Wm, microemulsion phase (aqueous micellar solution) ; Om, reversed micellar solution ; LC, multi phase reagion with unidentified liquid crystalline phase ; I, one-phase region ; II, two-phase reagion.

In the left side triangle phase diagram, polyoxyethylene/polyoxypropylene dimethyl ether is incorporated. In the right side triangle phase diagram, 1,3-butane diol is incorporated. And the gray region in the diagrams represents one phase O/W microemulsion region (aqueous micellar solution region). The bow-like parts in the gray region around the middle of the triangle diagrams are significant. The bow-like part in the left diagram is relatively thick compared with that in the right side diagram. This means that the one-phase microemulsion region using polyoxyethylene/polyoxypropylene dimethyl ether is wider than that using 1,3-butylene glycol.

A one-phase microemulsion can be obtained in the very narrow and restricted composition region. Therefore, it is difficult to obtain a one-phase microemulsion composition as the emulsion compositions, especially the emulsion composition in the cited documents which do not contain polypropylene glycol/polyethylene glycol copolymer derivatives.

In addition, the Examiner pointed out that the microemulsion made by a phase inversion temperature (PIT) method (WO '564 document) would be expected to be a one-phase microemulsion. However, that is not correct. In the PIT method, phase inversion is caused by increasing composition temperature, followed by cooling the composition. An emulsion having small particle size is obtained. Perhaps a one-phase microemulsion may be obtained at higher temperatures which caused phase inversion. However, it is typical for the obtained emulsion products (emulsion products which are cooled to room temperature) formed by a PIT method, to be in the form of a two-phase (micro) emulsion, because the one phase microemulsion region at room temperature is

very narrow. New claim 19 recites this feature. Specifically, new claim 19 is dependent from independent claim 1 and recites the one-phase microemulsion composition of claim 1, in which the composition is in a one-phase microemulsion phase at room temperature.

Independent claim 10 recites an O/W ultrafine emulsion external formulation. The O/W ultrafine emulsion according to claim 10 is in a two-phase emulsion state. However, as previously noted, claim 10 has been amended to recite (D) polypropylene glycol/polyethylene glycol copolymer derivatives. Neither of the cited documents disclose, teach or suggest using the polypropylene glycol/polyethylene glycol copolymer derivatives.

Regarding independent claims 9 and 11-18 directed to production methods for a one-phase microemulsion and O/W ultrafine emulsion external formulation, it will be appreciated that these claims have been amended to recite (D) polypropylene glycol/polyethylene glycol copolymer derivatives. It is respectfully submitted that the subject matter of these claims is not rendered obvious by cited documents.

Specifically, the production methods recited in the claims at issue include a W/O emulsion preparation step and a phase inversion step to O/W one-phase microemulsion. The Examiner contended "selection of any order of mixing ingredients in prima facie obvious" in MPEP 2144.04(IV)(C). However, the cited prior art documents do not recognize obtaining a one-phase microemulsion. As explained above, a one-phase microemulsion region is very narrow and restricted, thus a two-phase microemulsion is probably obtained in the systems of the cited documents. Therefore, the difference between the present invention and the cited prior art is not just

the "selection of any order of mixing ingredients." The cited prior art documents are not directed to the preparation of one-phase microemulsions, and it is very likely that no such emulsions were obtained.

Also accompanying this Amendment B is evidence of the non-obviousness of the claimed subject matter. Attached as Exhibit 1 is a Testimonial and an award by a Review Committee for the work by the inventors in an article entitled "Development of Novel Cosmetic Moisturizing Oil and its Application to Ultrafine Emulsification." This article pertains to the presently claimed subject matter. The award was granted by the Review Committee for this article being the 50th best oleochemical technology article.

Also submitted as Exhibit 2 is an award by the Editor of the Journal of Oleo Science to the inventors for their paper entitled, "Development of Novel Multifunctional Cosmetic Raw Materials and Their Applications. III. Effects of Random Copolymer of Polyoxyethylene / Polyoxypropylene on Self-organizing Structures of Nonionic Surfactants." A copy of this article is enclosed and cited in the Supplemental IDS. This article pertains to the presently claimed subject matter.

In view of the foregoing, it is respectfully submitted that the rejection of claims 1-2, 4-8, and 10 under §102(b) based upon JP 10-120524 and the rejection of claims 1-3, 7-8, and 10 under §102(b) based upon WO 99/44564 must be withdrawn. Furthermore, in view of the foregoing, it is respectfully submitted that the rejection of claims 4-6, 9 and 11-18 under §103(a) based upon WO '564 must now be withdrawn.

D. Conclusion

In view of the clarifications and evidence of non-obviousness presented herein, it is respectfully submitted that all claims 1-6, 9-16, and 19 are in condition for allowance.

If there are any fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. IWI-16715.

Respectfully submitted,

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賞　状

最優秀賞

株式会社資生堂

宮原令二君　大森隆司君

鹿子木宏之君　中原一好君

細川欣哉君

日本油脂株式会社

円山圭一君

業　績

新規化粧品保湿油分の開発と超微細乳化への応用

掲載誌名

Journal of Oleo Science

左記に発表された研究論文は平成18年度の油脂技術論文審査委員会において審査の結果油脂工業の技術発展に大いに寄与するものであることを認めました

よって油脂工業会館第50回油脂技術優秀論文としてここに賞金を添え表彰します

平成19年2月21日

油脂技術論文審査委員会

委員長　二木鋭雄

財団法人　油脂工業会館

理事長　宇野允恭

EXHIBIT 1

TESTIMONIAL

Highest Award

SHISEIDO COMPANY LTD.
Reiji Miyahara, Takashi Ohmori,
Hiroyuki Kakoki, Kazuyoshi Nakahara,
Kinya Hosokawa
NOF Corporation
Kei-ichi Maruyama

Achievement

Development of Novel Cosmetic Moisturizing Oil and its Application to Ultrafine Emulsification

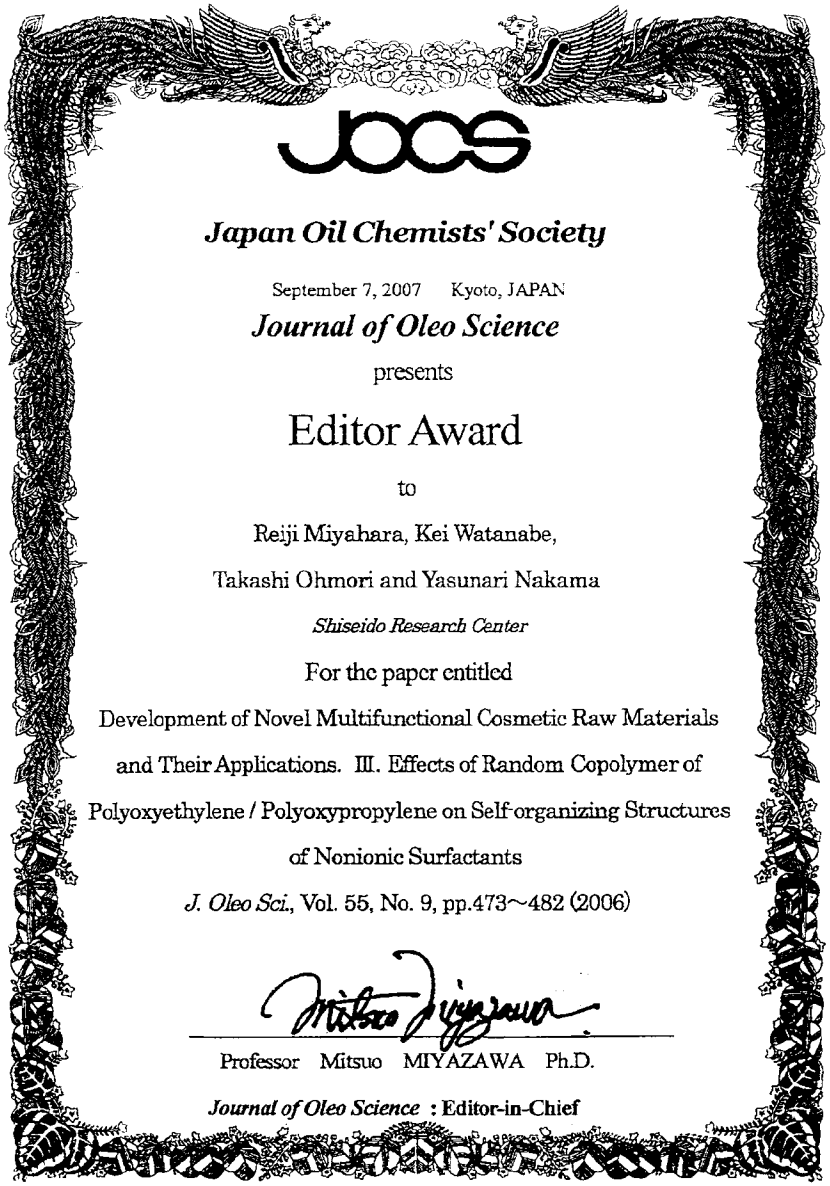
Name of Journal

Journal of Oleo Science

Reviewed in 2006 Yushi Gijutsu Ronbun (oleochemical technology article) Review Committee, the article published as above was acknowledged to contribute largely to the technique development in oleochemical industry.
Now, therefore, it is given the award for the 50th Best Yushi Gijutsu Ronbun (oleochemical technology article) by Foundation, Oil & Fat Industry Kaikan.

February 21, 2007

Yushi Gijutsu Ronbun (oleochemical technology article) Review Committee
Chairman Etsuo Niki
Foundation, Oil & Fat Industry Kaikan
Director Masayasu Uno



JOCS

Japan Oil Chemists' Society

September 7, 2007 Kyoto, JAPAN

Journal of Oleo Science

presents

Editor Award

to

Reiji Miyahara, Kei Watanabe,

Takashi Ohmori and Yasunari Nakama

Shiseido Research Center

For the paper entitled

Development of Novel Multifunctional Cosmetic Raw Materials and Their Applications. III. Effects of Random Copolymer of Polyoxyethylene / Polyoxypropylene on Self-organizing Structures of Nonionic Surfactants

J. Oleo Sci., Vol. 55, No. 9, pp.473~482 (2006)

Professor Mitsuo MIYAZAWA Ph.D.

Journal of Oleo Science **: Editor-in-Chief**

EXHIBIT 2